

## ABSTRACT

### DRUG DISCOVERY METHODS

The present invention provides collections of polypeptides, where each polypeptide includes a region  $Xaa_n$ , wherein  $n$  is from about 5 to about 21, and each  $Xaa$  is independently a random amino acid. Polynucleotides encoding the polypeptides, are also provided, as are methods for identifying a polypeptide within a collection that prevents cell death after exposure to a pathogen or a toxin, and methods for identifying a polypeptide within a collection that binds a pathogen, a toxin, a polypeptide, or a polynucleotide. The present invention also provides methods for crystallizing a polypeptide.

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